

EP 0 508 308 A3



Europäisches Patentamt  
European Patent Office  
Office européen des brevets



(11) Veröffentlichungsnummer: 0 508 308 A3

(2)

## EUROPÄISCHE PATENTANMELDUNG

(21) Anmeldenummer: 92105701.4

(51) Int. Cl. 5: G05B 19/417

(22) Anmeldetag: 02.04.92

(30) Priorität: 04.04.91 JP 71488/91

(43) Veröffentlichungstag der Anmeldung:  
14.10.92 Patentblatt 92/42

(44) Benannte Vertragsstaaten:  
DE GB

(88) Veröffentlichungstag des später veröffentlichten  
Recherchenberichts: 30.12.92 Patentblatt 92/53

(71) Anmelder: HITACHI, LTD.  
6, Kanda Surugadai 4-chome  
Chiyoda-ku, Tokyo 100(JP)

(72) Erfinder: Ohashi, Toshijiro  
4-4-504, Chigasaki-2-chome  
Chigasaki-shi(JP)  
Erfinder: Arimoto, Syoji  
Arusu Kamakura Ueki A-904, 19-2, Ueki  
Kamakura-shi(JP)  
Erfinder: Miyakawa, Seli  
79, Malokacho, Totsuka-ku  
Yokohama-shi(JP)  
Erfinder: Hayakawa, Mitsuharu  
9-19, Honcho-3-chome  
Konosu-shi(JP)

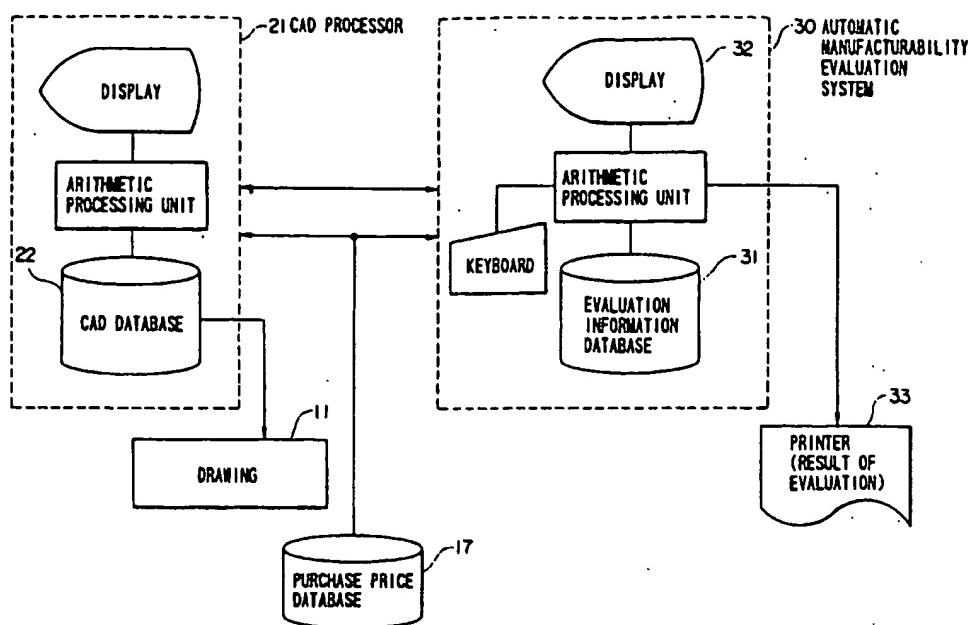
(74) Vertreter: Altenburg, Udo, Dipl.-Phys. et al  
Patent- und Rechtsanwälte  
Bardehle-Pagenberg-Dost-Altenburg  
Frohwitter-Geissler & Partner Postfach 86 06  
20  
W-8000 München 86(DE)

(54) Verfahren und Vorrichtung zur Beurteilung von automatischen Herstellungsmöglichkeiten.

(57) Automatic manufacturability evaluation method and system (30) for automatically evaluating quantitatively on the basis of design information (22) created by using a CAD unit (21) whether a structure of a product as designed is easy to manufacture or assemble, for the purpose of increasing productivity of the product. With the aid of a processing unit such as CAD (21) and an information processing system

(30) for evaluating manufacturability such as assembly and processability, an assembling order, assembling method, processing method and others are estimated. On the basis of the results of the estimations, optimal assembling order and method, optimal processing method and others are determined, the results of which is outputted, as occasion requires.

FIG.2





European Patent  
Office

## EUROPEAN SEARCH REPORT

Application Number

EP 92 10 5701  
Page 1

DOCUMENTS CONSIDERED TO BE RELEVANT			CLASSIFICATION OF THE APPLICATION (Int. CL.5)
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	
X	TECHNISCHE RUNDschAU vol. 78, no. 45, November 1986, BERN CH pages 16-21, 23, 25 R. BÄSSLER & T. SCHMAUS * page 23, column 1, paragraph 2; figures 9, 11 *	1, 11	G05B19/417
Y	SOVIET ENGINEERING RESEARCH vol. 3, no. 3, March 1983, GB pages 46 - 51 YU. M. SOLOVENTSEV & V.V. KUZMIN 'PRINCIPLES OF CONSTRUCTING AN AUTOMATED SYSTEM FOR ASSESSING THE MANUFACTURABILITY OF MECHANICAL COMPONENTS' * the whole document *	1-20	
Y	PROCEEDINGS OF MANUFACTURING INTERNATIONAL 1990 vol. 1, March 1990, USA pages 213 - 218 U.P. KORDE ET AL * abstract *	1-7, 10-16, 20	
Y	PROCEEDINGS 1990 IEEE INTERNATIONAL CONFERENCE ON ROBOTICS AND AUTOMATION May 1990, USA pages 1756 - 1762 B.R. DONALD & D.K. PAI * abstract *	8-9, 17-19	G05B
A	9TH PROCEEDINGS OF NAT. COMP. GRAPHICS ASSOC. (NGGA) 1988 vol. 3, 1988, USA pages 55 - 109 P. VILLERS * page 58, paragraph 4 - page 59, paragraph 2 *	1-20 -/-	
The present search report has been drawn up for all claims			
Place of search	Date of completion of the search	Examiner	
THE HAGUE	27 OCTOBER 1992	MOYLE J.F.	
CATEGORY OF CITED DOCUMENTS		I : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document	
X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document			



European Patent  
Office

## EUROPEAN SEARCH REPORT

Application Number

EP 92 10 5701  
Page 2

DOCUMENTS CONSIDERED TO BE RELEVANT		
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim
A	ROBOTICS AND COMPUTER INTEGRATED MANUFACTURING vol. 4, no. 1-2, 1988, OXFORD GB pages 69 - 76 V.R. MILICIC & M. UROSEVIC * the whole document *	1-20
<hr/>		
The present search report has been drawn up for all claims		
Place of search	Date of completion of the search	Drawer
THE HAGUE	27 OCTOBER 1992	MOYLE J.F.
CATEGORY OF CITED DOCUMENTS		
X : particularly relevant if taken alone	T : theory or principle underlying the invention	
Y : particularly relevant if combined with another document of the same category	E : earlier patent document, but published on, or after the filing date	
A : technological background	D : document cited in the application	
O : non-written disclosure	L : document cited for other reasons	
P : intermediate document	A : member of the same patent family, corresponding document	